

ETSO-2C521

Electronic Flight Bag Software Applications

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Electronic Flight Bag - Definition

- ▶ *Air Ops: An information system for flight deck crew members which allows storing, updating, delivering, displaying, and/or computing digital data to support flight operations or duties.*
- ▶ Usually a tablet device, hosting EFB software applications





EFB Software Applications – Type A and Type B

Examples of type A EFB applications

(AMC2 CAT.GEN.MPA.141(b))

- AOC, aircraft documents
- Passenger/cargo manifest
- Maintenance manuals
- Fuel prices
- Flight crew currency
- Crew rest calculation
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Examples of EFB type B applications

(AMC3 CAT.GEN.MPA.141(b))

- Performance calculation
- Weight and balance calculation
- Charts (static or data driven)
- Airport moving map display
- In-flight weather
- Manuals (operations manual, flight manual)
- Own-ship position in-flight
-

**Candidate for
EFB ETSOA**





► Current situation:

- EFB use authorisation is under operator's responsibility
- National authorities deliver operational approvals (for type B apps)

► EASA involvement:

- EASA provides a service ("OEB") for the evaluation of EFB applications,
- This allows an advanced review of compliance against applicable Air OPS requirements,
- Those evaluations are performed on a voluntary basis,
- Reports are publicly available on EASA's website.



Limitations of the OEB process

- Current process has limitations:
 - Non-binding outcome (recommendations)
 - Lack of tools for change management, occurrence reporting...

Industry requested a EASA involvement to be legally binding

- To support operators
- To support EU competent authorities
 - 28+4 Member States
 - Uneven level of knowledge
 - Requirements require expertise

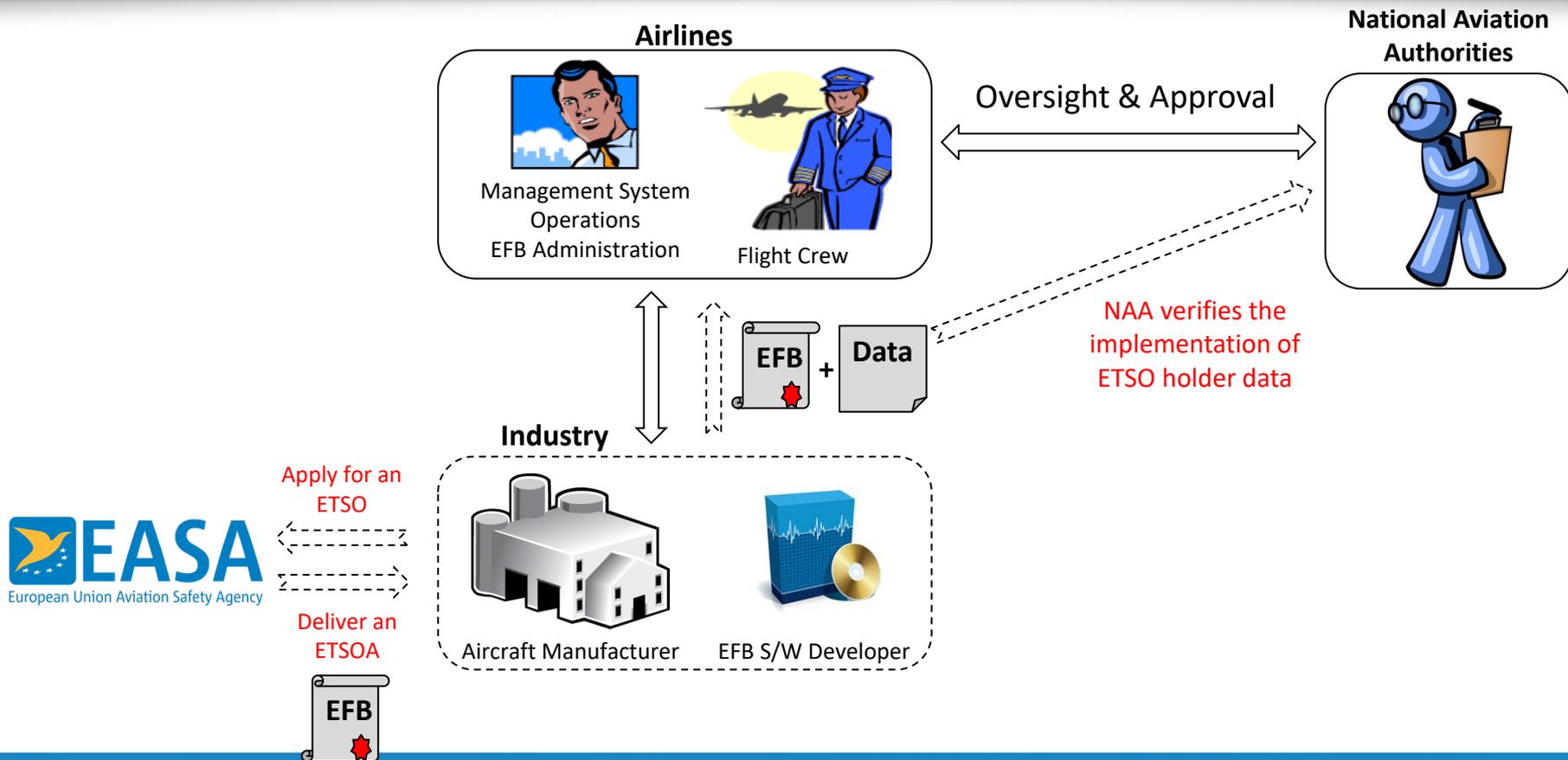


ETSO Approach - Principle

- EASA decided to create an ETSO for EFB, published in Amdt 17 of CS-ETSO
- Voluntary process
- Uses **ED-273 MOPS for EFB Software Applications**
- Software developers can apply to EASA to obtain an authorisation
- An ETSO-authorized EFB application is recognized as already compliant to Ops Regulation criteria
- Operators have to use installation and operational data under NAA oversight



ETSO Approach - Principle



- Published in 2021
- Covers:
 - Eligibility & Safety Assessment Processes
 - *Used for failure condition classification*
 - General Performance Requirements
 - Specific Performance Requirements
 - Software Assurance Processes (2 qualification levels)
 - *Can be used instead of CS-ETSO, Subpart A, paragraph 2.2*
 - Database Assurance Processes
 - Documentation Requirements
 - *Assumptions, mitigations and preventions means must be provided to operators*



Provisions in Air Ops Regulation

- AMC1 CAT.GEN.MPA.141(b) - Application Classification
 - ‘An application may also be recognised as a type A or type B EFB application through an appropriate approval (e.g. ETSO authorization) granted by EASA’
- AMC4 SPA.EFB.100(b) - EFB Applications With ETSO Authorisations
 - ‘EFB software applications may be approved by the Agency e.g. by means of an ETSO Authorisation. Such EFB applications are considered compliant with the requirements of SPA.EFB.100(b) that are covered in the approval scope, provided the EFB software is installed and used in conformity with its installation and operational instructions and limitations.’



- ▶ Using the ETSO for EFB will imply a learning curve on industry & EASA side
- ▶ Early discussions are encouraged
- ▶ Approval procedures details are under discussion

- ▶ OEB Process still offered (with limitations) today. ED-273 may be used for familiarisation.

End

Thank you for your attention

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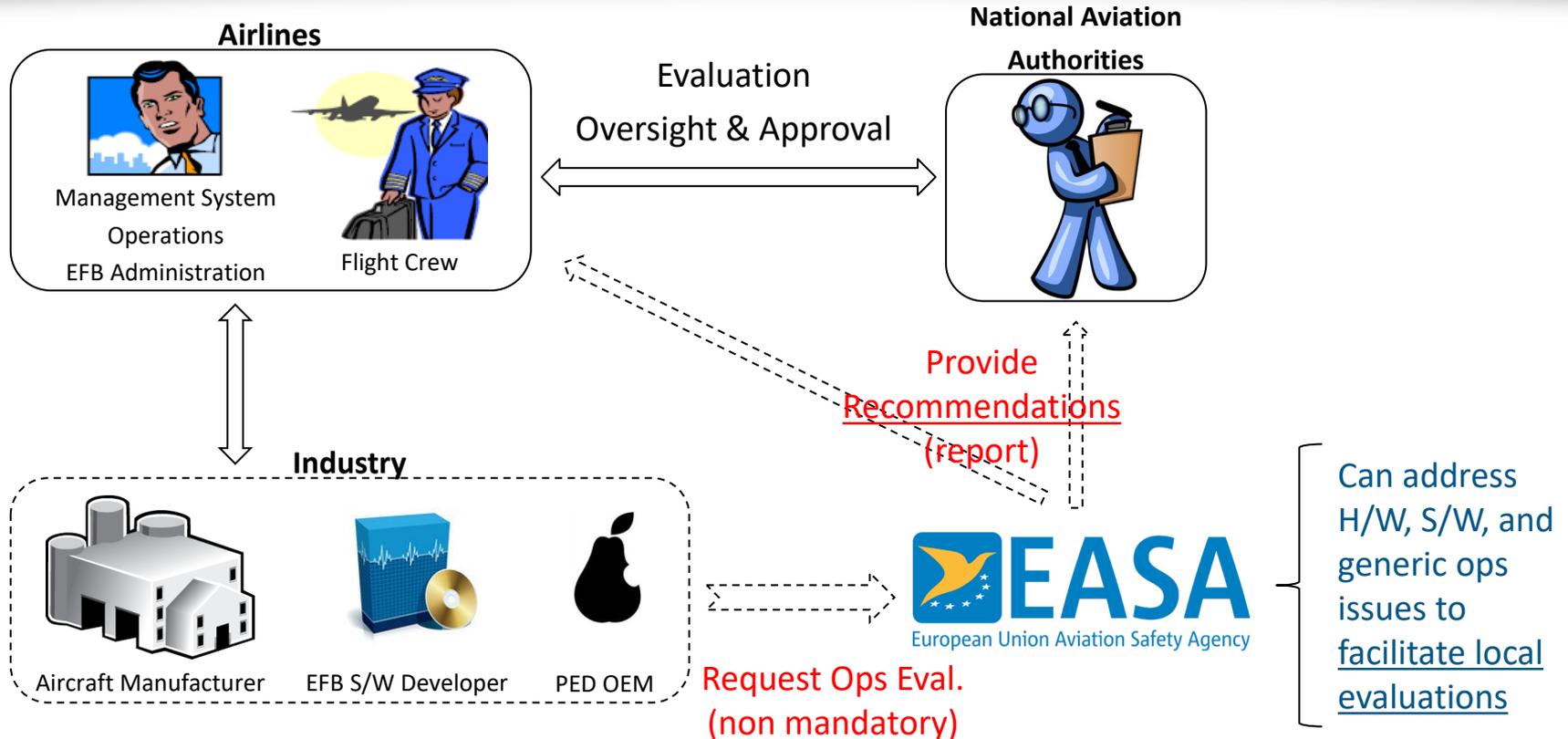


Background - Who does what (today)?

	Certification (EASA)	Operational Evaluation / Approval (Operator & NAAs)
Hardware	<u>Installed EFBs</u>	<u>Portable EFBs</u> <u>Viewable Stowage</u>
	EFB <u>Installed Resources</u>	
Software	-	EFB Software Applications (Type A and Type B)



Background - Operational Evaluation Board (OEB) Process





Principle

- (1) EFB Hardware (platform)
- (2) EFB Software (classification, HMI, software assurance...)
- (3) Non-airline specific ops issues (generic risk assessment, training syllabus, generic procedures and admin guidelines...)
- (4) Airline-specific ops issues (EFB administration, risk assessment, SOPs, maintenance, training, dispatch, integration in the A/C...)

- Today:

	H/W	S/W	Generic Ops	Specific Ops
EASA	(On request)	(On request)		N/A
Operator	Responsible			
NAA	Oversee – approve			

- Tomorrow: **Optional path**

	H/W	S/W	Generic Ops	Specific Ops
EFB SW 'DOA'	N/A	Apply to EASA		N/A
EASA	(On request)	Evaluate & authorize		N/A
Operator	Responsible	Use installation & ops data		Responsible
NAA	Oversee	N/A		Approve